National Institute of Environmental Health Sciences

Climate change and health and social care: Defining future hazard, vulnerability and risk for infrastructure systems supporting older people's health care in England

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Abstract:

Health and social care systems (including the care needs of the population and infrastructures providing health and social care) are likely to be influenced by climate change, in particular by the increasing frequency and severity of weather-related hazards such as floods and heatwaves. Coldwaves will also continue to be challenging in the foreseeable future. Protecting people's health and wellbeing from the impacts of climate change is especially important for older people, as they are particularly vulnerable to climate-related hazards. In addition, the proportion of people aged 65 and over is projected to increase significantly. This paper addresses these issues through a discussion of our work to map variations across England in future hazards, vulnerability and risk. We explain how this mapping has been used to identify areas of the country where the built infrastructure serving the older age group might be most severely impacted by climate-related events over the next 20-30 years and where planning for adaptation and resilience is most urgently required. Based on a review of research on the links between extreme weather events and their impacts on older people's health and the care services on which they depend, we developed operational definitions of extreme weather-related hazards likely to place particular pressure on health and social care systems that are essential for older people's health and wellbeing. We consider ways to relate these to the latest climate projections for the 2030s from the UK Climate Impacts Programme (UKCP09); river and coastal flooding projections for the 2050s from the 2004 UK Government's Foresight Flood and Coastal Defence Project (Environment Agency, 2004); and demographic projections for 2031 produced by the Office for National Statistics, UK. The research highlights the complexity of undertaking future hazard and vulnerability assessments. Key challenges include: how to define future hazards associated with climate change; how to predict and interpret future socio-demographic conditions contributing to vulnerability; and how geographical variability in hazards and vulnerabilities may combine to produce risks at the local level. In contrast to a number of more local studies which have focused on the vulnerability of urban populations to the impact of climate change (particularly heatwaves), the findings highlight the potential vulnerability of older populations in more rural regions (often in coastal areas) to a range of extreme weather-related hazards in both the North and South of England.

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Resource Description

Climate Scenario :

specification of climate scenario (set of assumptions about future states related to climate)

Other Climate Scenario

Other Climate Scenario: UKCP09

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event, Temperature

Extreme Weather Event: Flooding

Temperature: Extreme Cold, Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

Ocean/Coastal, Rural

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : England

Health Impact:

specification of health effect or disease related to climate change exposure

Injury

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology:

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Elderly, Low Socioeconomic Status

Other Vulnerable Population: People with health care needs

Resource Type: ☑

format or standard characteristic of resource

Research Article

Resilience: ☑

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: ☑

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content